WANG

Independent Sales
Organization

Tech News
Number 1
September 1983

ISO Tech News

TABLE OF CONTENTS

ISO SOFTWARE
LICENSE AGREEMENT
by ISO Marketing

Wang's Independent Sales Organization is composed of three groups -- systems houses (OEMs), vendors, and dealers. In order for an ISO to sell Distributed Software (software written and supported by a third party developer but distributed through Wang Laboratories), a special software agreement between Wang and the ISO must first be signed.

Systems Houses
Eventually, this type of agreement will be merged into standard ISO hardware agreements. In the meantime, a separate software agreement has been drawn up. Copies of this software agreement are being distributed to all Wang Area Systems House Managers for signature by systems houses intending to sell Distributed Software. These signed agreements should be returned to Frank Chamberlin, Mail Stop 1408A, in the corporate ISO Marketing group. The Supplies Division data base will be updated accordingly to serve as a reference for validating ISO software orders. A systems house wishing to place an order with Supplies but who has not yet signed an agreement will be referred to the appropriate Wang Systems House Manager so that this requirement can be filled before the order is processed. Area Systems House Managers are responsible for getting these contracts signed by all new Wang systems houses as part of the registration process.

Vendors
For participating vendors who do not currently have agreements with Wang, this will be a stand-alone software agreement. This agreement and an accompanying cover letter are being mailed direct to all vendors. Vendors who return a signed agreement to the Wang Vendor Sales Development group will be referenced in the Supplies Division data base as qualified to order Distributed Software. Any vendors wishing to order software but not qualifying because of lack of a signed agreement will be provided with an agreement form by Frank Kushmerek in the corporate Vendor Sales Development group.

Dealers
Although all dealers have signed contracts with Wang, earlier contracts did not contemplate Distributed Software. An attempt is being made to have all dealers sign the new contract, which includes these software provisions. Dealers who have signed the new agreement will be represented in the Supplies Division data base as eligible to place orders for Distributed Software.

WANG SERVICE   The following is important for you to know when discussing
RESPONSE TIME   Wang's Customer Engineering with prospects and customers.
by Customer   A July 4th ComputerWorld article reported the results of an
    Engineering International Data Corporation (IDC) survey on "User
                 Satisfaction With Customer Service." A total of 305 users
                 representing 10 different vendors' equipment responded to
                 the survey. One of the two charts in the article showed
                 Wang's service response times as being one of the longest
                 among these vendors. Because these results varied so much
                 from our own Customer Survey, we investigated the IDC
                 results further.

                 Because ComputerWorld has such a large circulation in the
                 computer industry, many of your customers, prospects, and
                 competitors may have read this article. If objections are
                 raised by your prospects based on this article or your
                 competitors are referencing this article, the following
                 facts are key in taking an offensive selling approach.

                 (1) The size of the Wang user sample was only 14.

                 (2) One of the 14 respondents was a Wang customer located
                     in a remote site -- in Pahala, Hawaii. This user, who
                     was satisfied with Wang's Service, reported a 48-hour
                     response time from Wang in an emergency and a 96-hour
                     response time under normal circumstances. This user's
                     response heavily skewed the survey results.

                 (3) Two of the 14 Wang users were Time and Material
                     customers. When these users and the customer located
                     in Hawaii are removed from consideration, Wang's
                     response time average becomes superior to the overall
                     IDC survey average. These results are consistent with
                     our own Wang Customer Survey results which show under a
                     4-hour response time average.

                 (4) The other chart in the ComputerWorld article shows Wang
                     as ranking relatively high in the category of "Prompt
                     Arrival On Site." No explanation is given for this
                     apparent contradiction.

                 (5) IDC has indicated that they do not validate their
                     studies to determine if correct measurements were used
                     or if sample sizes are large enough.

                 When a larger sample size of Wang users (961) was analyzed
                 in the 1983 study "The Office Products Analyst Report,"
                 Wang's service response times was rated better than those
                 of DEC, Prime, Burroughs, DG, and other small vendors.

                 (continued)

WANG SERVICE
RESPONSE TIME
(continued)

The Bottom Line: After reading the ComputerWorld article,
prospects may be listening with skepticism when you discuss
Wang Customer Engineering. The above facts will help put
Wang Customer Engineering back in perspective. In
addition, it is recommended to re-emphasize the success
Wang Customer Engineering has experienced in recent years
i.e., the implementation of WangCare - Guaranteed Uptime
and an average 4-hour response time (refer to the Business
of Service brochure, 700-7258, and the Guaranteed Uptime
brochure, 700-7410, for more details). These programs have
resulted in increased customer satisfaction and improved
competitive position as indicated by other industry
surveys. If objections are raised by your prospects based
on this ComputerWorld article, and your competitors are
referencing this article, the above facts will help you
compete offensively.

ISO FORUM

This section of ISO Tech News is reserved for input from
the Wang Indirect Sales Organization. Please send any
notices, comments, questions, usage pointers, etc., which
you would like to address to other ISOs and to the Wang ISO
support organization to:

>   Jo Anne Kelch, ISO Tech News Editor
>   Mail Stop 1408A
>   Wang Laboratories, Inc.
>   One Industrial Avenue
>   Lowell, MA 01851

Subject to approval by the ISO Tech News Editorial Board,
information sent in will appear in a future edition of ISO
Tech News. Any articles longer than one typewritten page
should be submitted as word processing documents on
diskette, accompanied by hard copy printout.

ISO Forum is intended as a two-way communication link
between Wang corporate headquarters and the Independent
Sales Organization, as well as providing a means of
communication among individual ISOs.

VS 85 ANNOUNCED
by VS Product
    Marketing

DESCRIPTION
Wang Laboratories is pleased to announce the newest member
of the 32-bit family of VS systems. The VS 85 is a 32-bit
CPU which offers high-powered performance along with VS
compatibility at very attractive prices. The VS 85 meets
the needs of the small to mid-sized department with up to
48 users who require total data processing and office
automation functions. These functions can range from
sophisticated networking and telecommunications applica-
tions to existing word processing and document transfer.

By packaging the VS 90/100 32-bit architecture with its
proven reliability in a VS 25 style cabinet, Wang is making
available to a wider spectrum of users the technology that
is being enjoyed by its current customer base. The VS 85
packaged systems replace the VS 90 packages which, as of
July 1st, are no longer available domestically. Though the
CPU is not field upgradable to a larger VS, VS 85 software
and peripherals are transportable along the entire VS prod-
uct line. With this product, Wang offers a solution for
users requiring the full office automation and data
processing capability of a 32-bit CPU at competitive prices.

Highlights of the VS 85
. VS 90/100 32-bit CPU and Architecture
. Compact System Cabinet
. New Switching Power Supply
. Disk Storage Capacity over 5 Gigabytes
. Supports All VS Hardware with Existing VS 90/100 IOPs
. Support for All Current VS Software
. Optional Cache Memory for Improved Performance
. Up to 48 Workstations and Printers Supported
. Packaged Configurations Available
. Available Now for Immediate Shipment

CENTRAL PROCESSOR: The same central processing unit as
well as the control memory of the the VS 90/100 are being
utilized in the VS 85. The 32-bit data path to the Central
Processor remains the same, as does the 160 nanosecond
microinstruction time. The control memory continues to be
loaded from a mini-diskette, thereby retaining the
flexibility of upgrading system microcode.

I/O BUS AND PROCESSORS: Both the I/O Bus and the I/O
Processors are the same as those that are used with the VS
90/100. By using the same IOP processors as the VS 90/100
systems, the VS 85 can support all of the peripherals
supported on the 90/100 systems, thereby insuring
compatibility within the VS product line.
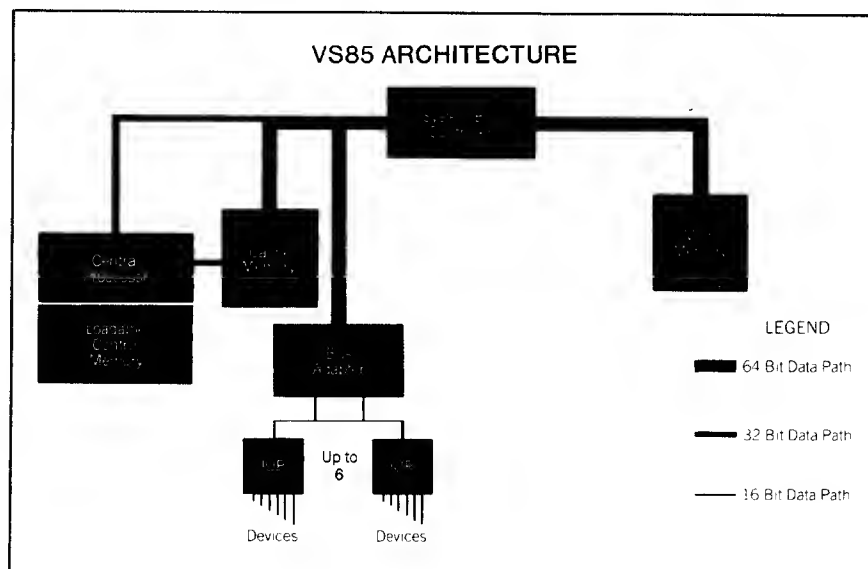
VS 85 ANNOUNCED
(continued)

BUS ADAPTER: A new system bus adapter allows for buffering and routing services between the I/O processors and the Central Processor. Only one bus adapter is supported on the VS 85. Through connection to the system bus controller, the bus adapter transfers data from the I/O processors to the Central Processor.

MAIN MEMORY: Main memory can be configured with 1, 2, or 4 MB. A modified System Bus Controller allows for a 32-bit memory access and a bandwidth of 8.3 MB/sec.

CACHE: A 32 KB Cache option provides for a 64-bit memory access and a memory bandwidth of 16.6 MB/sec. This is accomplished in combination with the new system bus controller, which is capable of accessing memory on a 32 or 64-bit path. This added feature also permits the configuration of either a second disk IOP or a tape IOP for support of the 2219V tape drive.

POWER SUPPLY: The system power supply is a switching power supply. It is capable of operating in either a 110 volt/25 amp or 220 volt/15 amp environment. Standard systems will be equipped for a 110 volt power.

SYSTEM CABINET: The VS 85 is housed in a VS 25 style cabinet. A modified motherboard provides for 5 processor slots, one bus adapter, six I/O processor slots, one 5 1/4 inch diskette drive and a switchable power supply.

VS85 ARCHITECTURE

LEGEND

64 Bit Data Path

32 Bit Data Path

16 Bit Data Path

(continued)

<u>VS 85 ANNOUNCED</u>
(continued)

<u>Configuration Capabilities</u>

All VS 85 systems support the following maximums:
. Maximum main memory of 4 MB
. Maximum disk storage of over 2 GB
. Maximum of 32 workstations
. Maximum of 1 disk IOP
. Maximum of 4 disk drives
. Maximum of 6 communications lines
. Maximum of one 22V25-2 tape IOP

With the addition of 32-Kilobyte cache memory, the
following options become available:
. Maximum of 48 workstations
. Support for either a second disk IOP (allowing a
  maximum of 8 disk drives with 5.1 Gigabytes of
  on-line storage) or a tape IOP, for support of the
  2219V tape drive.
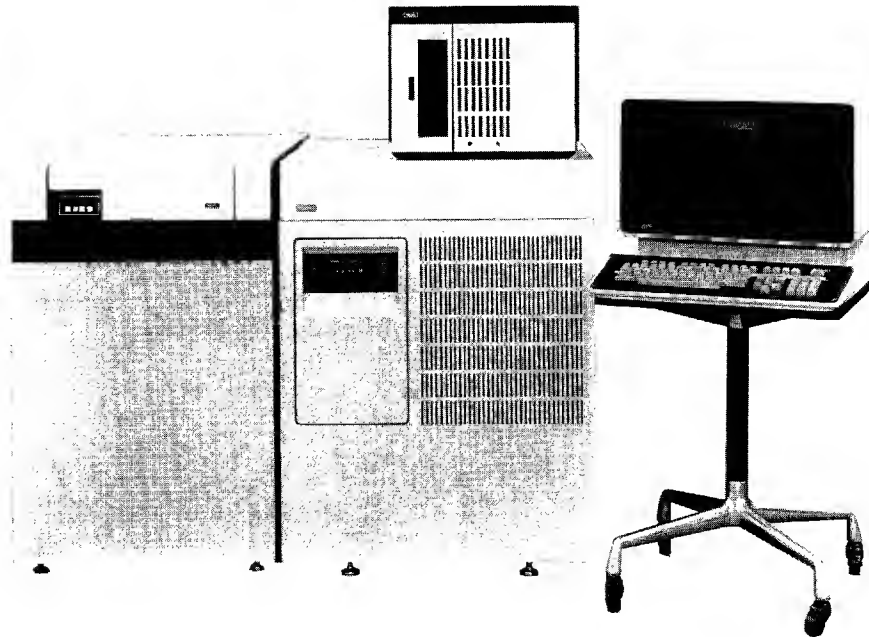
A VS 85 SYSTEM

(continued)

VS 85 ANNOUNCED
(continued)

MARKETING STRATEGY

As the low-end 32 bit VS processor in the Wang product line, the VS 85 addresses the needs of those users who require the same processing capability of the VS 90 but who do not anticipate support of greater than 32 to 48 users. A typical installation will require both local and remote workstation functionality to support a combination of data processing and word processing applications. Any mid-sized department with such requirements would be a prime candidate for the VS 85. Other candidates are users who require an upward migration path from a VS 80 or VS 45 as they experience the need for more processing power, more user activity, or increased office automation functionality.

For the small to medium sized user, the VS 85 offers many advantages in addition to those offered with the high-end VS 45. Many users require the larger workstation capacity, memory sizes and disk storage possibilities. As with the VS 45, the 85 offers the same easy installation capability because of the more compact cabinet.

Medium-sized departments who require total office automation functionality as well as the more powerful throughput of a 32-bit machine will prefer a VS 85. If the requirements are for the full office automation functions for a user population of no more than 48, the VS 85 will provide the memory capacity needed as well as the software features required to do the job.

Because upgradability to a VS 100 is not available, departments forseeing a limited growth potential but requiring a 32-bit system are prime candidates for the VS 85. In situations where a heavy volume of data and word processing is expected with a limited number of users, needs can be met by the VS 85, which provides the computer power of the larger VS 90/100 systems without the higher price. Wang can achieve this price performance by offering the same 32-bit CPU, peripherals and software as the VS 90/100 but in smaller configurations.

ORDERING INFORMATION

The VS 85 systems described here provide the customer with a price performance that is unequaled in the 32-bit CPU marketplace. With the basic configuration as a starting point, the user can add to the system, using standard configuration options that are available. Volume shipments of VS 85 systems have already begun.

	Model	Description

VS 85 ANNOUNCED
(continued)

VS85-1   (Purchase $63,000;   Monthly Maintenance $323)

VS 85 CPU	1 MB Memory, Op. Sys. & Assembler
22V27-2	16-port serial IOP
2266S-3	48K Archiving Workstation

VS85-2   (Purchase $73,000;   Monthly Maintenance $373)

VS 85 CPU	2 MB Memory, Op. Sys. & Assembler
22V27-2	16-port serial IOP
2266S-3	48K Archiving Workstation

VS85-4   (Purchase $91,000;   Monthly Maintenance $473)

VS 85 CPU	4 MB Memory, Op. Sys. & Assembler
22V27-2	16-port serial IOP
2266S-3	48K Archiving Workstation

VS85E   (Purchase $78,000;   Monthly Maintenance $625)

VS85-1	1 CPU (1 MB Memory, Op. Sys. & Assembler)
22V27-2	1 16-Port Serial IOP
22V28	1 4-Port Disk IOP
22V26-3	1 3-Port TC IOP
2266S-3	1 48K Archiving Workstation
2280V-3	1 90 MB Disk Drive
220-3041-20	1 Disk 'A' Cable - 25 feet
220-3033-22	1 Disk 'B' Cable - 25 feet
	1 Compiler (COBOL, RPGII, BASIC or PL/1)

VS85F   (Purchase $83,000;   Monthly Maintenance $658)

VS85-1	1 CPU (1 MB Memory, Op. Sys. & Assembler)
22V27-2	1 16-Port Serial IOP
22V28	1 4-Port Disk IOP
22V26-3	1 3-Port TC IOP
2266S-3	1 48K Archiving Workstation
2265V-2	1 288 MB Disk Drive
220-3041-18	1 Disk 'A' Cable - 25 feet
220-3033-24	1 Disk 'B' Cable - 25 feet
	1 Compiler (COBOL, RPGII, BASIC or PL/1)

VS85G   (Purchase $93,000;   Monthly Maintenance $718)

VS85-1	1 CPU (1 MB Memory, Op. Sys. & Assembler)
22V27-2	1 16-Port Serial IOP
22V28	1 4-Port Disk IOP
22V26-3	1 3-Port TC IOP
2266S-3	1 48K Archiving Workstation
2265V-1	2 75 MB Disk Drives
220-3041-20	1 Disk 'A' Cable - 25 feet
220-3033-22	1 Disk 'B' Cable - 25 feet
220-3031-3	1 'A' Daisy Chain Cable - 10 feet
	1 Compiler (COBOL, RPGII, BASIC or PL/1)

(continued)

VS 85 ANNOUNCED UPGRADE OPTIONS
 (continued) The VS 85 upgrade consists of a cache memory option that
 allows a greater variety of system configurations. With
 this option an additional disk IOP for support of up to 8
 disk drives or a tape IOP for 2219V tape drive support can
 be added to a system. These options are mutually exclusive.
 In addition, the cache memory will support up to 48 work-
 stations and printers. There is no CPU upgrade to a VS 90
 or VS 100. The CPU must be swapped out in order to make
 such a change. Software and peripherals are totally trans-
 portable within the VS processor line.

Model	Description	Purchase Price	Monthly Maintenance
85-Cache	32 KB Cache Option	$ 6,000	$ 60

Memory Upgrades:
UJ-3188	1 MB to 2 MB	$12,000	
UJ-3192	2 MB to 4 MB	$24,000	

VS 90/100
REPOSITIONING
by VS Product
    Marketing

The VS 90/100 now becomes the high-end offering in Wang's 32-bit VS product family, with the VS 85 as the entry level system. The VS 90/100 systems are designed for those situations where a heavy volume of data processing/office automation is expected with a large number of users. To properly position the VS 85 as the entry level 32-bit system and assure more consistency across VS systems, Wang have revised the VS 90 and VS 100 CPU product offerings, with no changes in either the purchase or maintenance pricing, as follows:

. VS 90 packaged system offerings expired domestically June 30, 1983. VS 90 CPUs now include the specified amount of main memory, a 16-port serial IOP, one serial archiving workstation with hard sector/soft sector controller, and one bus adapter. The operating system and Assembler are standard. Only serial devices may be attached to the system through an appropriate IOP. The TC IOP, Tape IOP and Disk IOP are no longer included.

. VS 100 CPUs now include the specified amount of main memory, cache memory, a 16-port serial IOP, and a chassis capable of accommodating 16 IOPs. One bus adapter which provides an interface for 8 IOPs is standard. One additional bus adapter is optional at extra cost. The operating system and Assembler are standard. All systems include one serial archiving workstation with hard sector/soft sector controller. Only serial devices may be attached to the system through an appropriate IOP.

Model	Description	Purchase Price	Monthly Maintenance
VS 90 Central Processing Units			
VS90-1	1024 KB Main Memory	$ 73,000	$ 450
VS90-2	2048 KB Main Memory	83,000	500
VS90-3	3072 KB Main Memory	92,000	550
VS90-4	4096 KB Main Memory	101,000	600
VS 100 Central Processing Units			
VS-32F	1024 KB Main Memory	$ 83,000	$ 738
VS-64F	2048 KB Main Memory	93,000	788
VS-96F	3072 KB Main Memory	102,000	838
VS-128F	4096 KB Main Memory	111,000	888
VS-160F	5120 KB Main Memory	119,000	938
VS-192F	6144 KB Main Memory	127,000	988
VS-224F	7168 KB Main Memory	135,000	1038
VS-256F	8192 KB Main Memory	143,000	1088

VS DISK, DISK IOP,   Wang Laboratories is announcing substantial changes in disk
AND CONTROLLER   pricing in order to continue to compete aggressively in the
REPRICING   initial sale of systems and in the add-on disk marketplace.
by VS Product   VS Disk IOP/Disk Device Controller pricing has been revised
   Marketing   also. Repricing, as of July 1, 1983, is as follows:

. Disk and maintenance prices have been reduced 18 to 48%.

. Drive and maintenance prices are constant across the VS
  product line.

. 2280V-1 and 2280V-2 disk drives have been discontinued.

. VS Disk, IOP/Disk Device Controller pricing for the
  75/90/288/640 MB disk drive line has increased, with the
  exception of Disk IOP prices for the 640 MB disk drive
  which have dropped dramatically on the VS 85/90/100.

. Combined Disk and Disk IOP/Disk Device Controller
  pricing is significantly reduced in both initially
  configured systems and add-on business.

DISK DRIVE PRICING

Model	Description	Purchase Price	Monthly Maintenance
2280V-3	90 F/R Disk Drive	$ 13,000	$ 186
2265V-1	75 MB Removable Disk Drive	12,000	160
2265V-2	288 MB Removable Disk Drive	18,000	255
2265V-3	640 MB Fixed Disk Drive. Requires 25V50-x for VS 45, 22V78-x for VS 80, and 22V88-x for VS 85/90/100.	28,000	180

VS 80 TRADE-IN DISK IOPs

When a VS 80 is traded in for a VS 85/90/100, the IOPs for
the VS 85/90/100 must be ordered with the CPU. If an IOP
is being returned with the VS 80 there will be no charge
for the same IOP on the VS 85/90/100, provided reference
is made to the work order(s) on which the original IOPs
were ordered.

(continued)

VS DISK, DISK IOP,
AND CONTROLLER
REPRICING
  (continued)

DISK DRIVE IOP/CONTROLLERS

Model	Description	Purchase Price	Monthly Maintenance
22V08	VS 80 IOP for 90/75/288 MB disk	$ 7,500	$ 50
22V28 *	VS 85/90/100 IOP for 90/75/288 MB disks	7,500	50
22V38	VS 80 IOP for SW04 and SW04-1 switches	7,500	50
22V48 *	VS 85/90/100 IOP for SW04 and SW04-1 switches	7,500	50
22V78-1	1-Port 2265V-3 Disk IOP for VS 80	6,500	63
22V78-2	2-Port 2265V-3 Disk IOP for VS 80	7,500	78
22V78-3	3-Port 2265V-3 Disk IOP for VS 80	8,500	93
22V78-4	4-Port 2265V-3 Disk IOP for VS 80	9,500	108
22V88-1*	1-Port 2265V-3 Disk IOP for VS 85/90/100	6,500	63
22V88-2*	2-Port 2265V-3 Disk IOP for VS 85/90/100	7,500	78
22V88-3*	3-Port 2265V-3 Disk IOP for VS 85/90/100	8,500	93
22V88-4*	4-Port 2265V-3 Disk IOP for VS 85/90/100	9,500	108
25V50-1	1-Port Disk Device Controller (VS 45 only)	6,500	63
25V50-2	2-Port Disk Device Controller (VS 45 only)	7,500	78
25V50-3	3-Port Disk Device Controller (VS 45 only)	8,500	93
25V50-4	4-Port Disk Device Controller (VS 45 only)	9,500	108

* Limit of four disk IOPs on VS 100, two disk IOPs on VS 90
  or VS 85 with cache, one disk IOP on VS 85 without cache.

VS 25 / VS 45
REPRICING
by VS Product
    Marketing

Wang Laboratories is pleased to announce an exciting new price schedule for the VS 25 and VS 45. The most significant revisions are a reduction in maintenance pricing and the availability of five new packaged systems, which improve Wang's competitive posture in fully configured systems.

Changes affecting the entire VS product line, such as reductions in overall disk pricing, are also reflected in the VS 25 and VS 45 pricing revisions. Although there have been increases in VS 45 pricing and upgrade pricing, packaged system pricing coupled with full office automation functionality should provide an overall system solution unparalleled in the marketplace.

VS 25 and VS 45 Repricing Highlights

. 40% reduction in VS 25/45 A and C maintenance prices

. 60% reduction in VS 45 X maintenance prices

. VS 25 and VS 45 package pricing

. Revised VS 45 CPU and upgrade pricing

. 31% and 27% effective maintenance decrease on VS 25 B & D

. 22% effective maintenance decrease on VS 45 E, F and G

. VS product line disk pricing reductions

VS 25 PACKAGED SYSTEMS

Model	Description	Purchase Price	Monthly Maintenance
VS25B	VS 25-8A, 2246S Workstation, Compiler*	$ 25,000	$ 200
VS25D	VS 25-16A, 2246S Workstation, 1-Port Telecommunications Controller, Tape Cartridge Drive, Compiler*	34,000	297

* Compiler may be VS COBOL, RPGII, BASIC or PL/1

(continued)

VS 25 CENTRAL PROCESSING UNITS

Consists of Main Memory, 1.2 MB DSDD Diskette Drive, 34 MB
or 68 MB Fixed Disk and Fixed Disk Device Controller,
16-Port Serial Device Controller and Wang-supplied modem
for remote diagnostic purposes only. VS operating system
and Assembler are standard. The VS 25 supports serial
devices only.

Model	Description	Purchase Price	Monthly Maintenance
VS25-8A	512 KB Main Memory 34 MB Fixed Disk	$ 25,000	$ 135
VS25-12A	768 KB Main Memory 34 MB Fixed Disk	27,000	150
VS25-16A	1024 KB Main Memory 34 MB Fixed Disk	29,000	165
VS25-8C	512 KB Main Memory 68 MB Fixed Disk	32,000	173
VS25-12C	712 KB Main Memory 68 MB Fixed Disk	34,000	188
VS25-16C	1024 KB Main Memory 68 MB Fixed Disk	36,000	203

VS 45 CENTRAL PROCESSING UNITS

Consists of Main Memory, 1.2 MB DSDD Diskette Drive, 32-Port
Serial Device Controller and Wang-supplied modem for remote
diagnostic purposes only. VS operating system and Assembler
are standard. The VS 45 supports serial devices only. 'A'
or 'C' models include 34 MB or 68 MB Fixed Disk and Fixed
Disk Device Controller; 'X' models include no disks or Disk
Device Controllers. All models support standard VS disk
drives with appropriate 25V50-x external Disk Device Con-
troller. Cables must be ordered for each external disk.

Model	Description	Purchase Price	Monthly Maintenance
VS45-8X	512 KB Main Memory	$ 26,000	$ 82
VS45-12X	768 KB Main Memory	28,000	92
VS45-16X	1024 KB Main Memory	30,000	102

(continued)

VS 25 / VS 45
REPRICING
(continued)

VS 45 CENTRAL PROCESSING UNITS (continued)

Model	Description	Purchase Price	Monthly Maintenance
VS45-8A	512 KB Main Memory 34 MB Fixed Disk	$ 33,000	$ 144
VS45-12A	768 KB Main Memory 34 MB Fixed Disk	35,000	159
VS45-16A	1024 KB Main Memory 34 MB Fixed Disk	37,000	174
VS45-8C	512 KB Main Memory 68 MB Fixed Disk	40,000	182
VS45-12C	768 KB Main Memory 68 MB Fixed Disk	42,000	197
VS45-16C	1024 KB Main Memory 68 MB Fixed Disk	44,000	212

VS 45 PACKAGED SYSTEMS

Model	Description	Purchase Price	Monthly Maintenance
VS45E	VS 45-16X, 90 MB Fixed/Re-movable Disk, 2-Port Disk Device Controller, 1-Port Telecommunications Con-troller, 2246S Workstation, Disk Cables, Compiler*	$48,000	$ 396
VS45F	VS 45-16X, 288 MB Removable Disk, 2-Port Disk Device Controller, 1-Port Tele-communications Controller, 2246S Workstation, Disk Cables, Compiler*	53,000	498
VS45G	VS 45-16X, two 75 MB Remov-able Disks, 2-Port Disk Device Controller, 1-Port Telecommunications Con-troller, 2246S Workstation, Disk Cables, Compiler*	63,000	557

* Compiler may be VS COBOL, RPGII, BASIC or PL/1

(continued)

VS 25 / VS 45
REPRICING
(continued)

VS 45 DISK DEVICE CONTROLLERS

Model	Description	Purchase Price	Monthly Maintenance
25V50-1	1-Port Disk Device Controller (VS 45 only)	$ 6,500	$ 63
25V50-2	2-Port Disk Device Controller (VS 45 only)	7,500	78
25V50-3	3-Port Disk Device Controller (VS 45 only)	8,500	93
25V50-4	4-Port Disk Device Controller (VS 45 only)	9,500	108

VS 25/VS 45 UPGRADES

Model	Description	Purchase Price
CPU Upgrades		
UJ-3139	VS 25 to VS 45	$ 8,000
VS 25/45 Memory Upgrades		
UJ-3150	VS 25/VS 45 (512K to 768K)	3,000
UJ-3151	VS 25/VS 45 (512K to 1024K)	5,000
UJ-3152	VS 25/VS 45 (768K to 1024K)	3,000
VS 45 Disk Device Controller Upgrades		
UJ-3164	25V50-1 to 25V50-2	1,500
UJ-3165	25V50-1 to 25V50-3	2,500
UJ-3166	25V50-1 to 25V50-4	3,500
UJ-3167	25V50-2 to 25V50-3	1,500
UJ-3168	25V50-2 to 25V50-4	2,500
UJ-3169	25V50-3 to 25V50-4	1,500
VS 25/VS 45 Disk Upgrades		
UJ-3140	VS 25/45-A to VS 25/45-C (34 MB Fixed Disk to 68 MB Fixed Disk)	7,500
UJ-3141	VS 45-X to VS 45-A (No Fixed Disk to 34 MB Fixed Disk. Includes 25V55 Device Controller)	7,500
UJ-3142	VS45-X to VS45-C (No Fixed Disk to 68 MB Fixed Disk. Includes 25V55 Device Controller)	14,500

VS DISCONTINUED
PRODUCTS
by VS Product
   Marketing

Due to the availability of newer replacement products and lack of marketing demand, the following products are now removed from the VS section of the Wang price book:

. All VS 50 and VS 50A systems*
. VS-80Z1 and VS-80Z2 packaged systems
. VS90E, VS90F, and VS90G packaged systems
. Card Reader, model 2244V*
. 2280V-1 (30 MB) and 2280V-2 (60 MB) disk drives*
. 22V08A and 22V28A disk IOPs, which have been
   replaced by 22V08 and 22V28 disk IOPs

* Asterisks indicate products which will continue to be offered on a rental basis only.

VS OPERATING
SYSTEM 6.10.00
by VS R&D

DESCRIPTION
Release 6.10.00 of the VS Operating System, recently distri-
buted to domestic Customer Engineering Area Technical
Operations Managers, includes several new enhancements as
well as all functions and features of the Release 5.03 VS
Operating System series. Also, several software problems
have been fixed in Operating System Release 6.10.00.

It is recommended that all Release 5.03 VS Operating System
users upgrade to OS general release 6.10.00. (For the time
being, OS 5.03 users heavily involved in telecommunications
usage may remain with OS 5.03.70 or a later 5.03 maintenance
release.) Release 5.01 VS Operating System telecommunica-
tions users may remain with OS 5.01.65 or any later 5.01
maintenance release, unless the additional capabilities of
OS Release 6.10.00 are required. After January 1, 1984,
5.01 and 5.03 operating systems will no longer be supported.

The 6.10.00 Operating System software is packaged on a
9-track tape and includes VS operating system files for all
VS CPU types (CP3 for VS 50/80, CP4 for VS 85/90/100, and
CP5 for VS 25/45). The 6.10.00 Operating System tape also
includes peripheral microcode files, utility programs, and
a procedure for building COLDSTART diskettes. It does not
include separately-priced software (compilers, Word Proces-
sing, telecommunications, and WangNet software, or utilities
such as EZQUERY), which must be ordered separately through
normal order processing channels. OS 6.10.00 does provide
support for all of these additional packages.

Release 6.10.00 Enhancements
. DP Broadcast Facility - The new DP Broadcast Facility
  allows a workstation message to be sent between an
  operator workstation and a user workstation. It includes
  both operator-to-user and user-to-operator facilities.

. Operator Privileges - Assignment of operator privileges
  to a User ID is now available through the SECURITY
  utility, as well as to a workstation. Whenever a User ID
  with operator privileges logs onto the system, the option
  to enter Operator Mode appears on the Command Processor
  menu. In past releases, assignment of operator
  privileges was handled strictly through workstations.

. DMS/TX - VS Operating System Release 6.10.00 includes
  support for DMS/TX, a transaction recovery and concur-
  rency control system. DMS/TX acts as an extension of the
  existing Data Management System (DMS) for the Record
  Access Method processing of indexed data files. It
  provides transaction rollback recovery, multiple resource
  sharing, and monitoring of structural integrity.

(continued)

VS OPERATING
SYSTEM 6.10.00
(continued)

DMS/TX can be used for any number of indexed files. Existing DMS programs require minor modification to support DMS/TX processing. COBOL Version 3.06.04, RPGII Version 4.10.00, and ASSEMBLE Version 1.09.02 support DMS/TX.

Note: DMS/TX is under a Control Release Program in order to carefully monitor its initial use. Therefore, DMS/TX is not included with Operating System Release 6.10.00, but can be ordered through the Control Release Program by contacting your local support analyst. VS Product Marketing is directing the DMS/TX Control Release Program.

. Procedure Interpreter - The Procedure Interpreter now includes support for remote print routing.

. Utility Enhancements - BACKUP now has two copying modes; the familiar DMS BACKUP mode and a high-speed VOLCOPY mode. Version 5.00.15 of BACKUP also introduces the use of "wild card characters" to allow backup of all files or libraries whose names contain a particular character sequence. The GENEDIT, EDITOR, COPY, DISKINIT and SECURITY utilities have also been enhanced in OS 6.10.00.

. Control Mode Dump Procedure - An easy-to-use dump procedure is available.

. HELP TEXT - On-line Help Text is now available with the BACKUP, I/O Error Log (IOELOG) and DMS/TX Conversion utilities. PF Key 13 is reserved for access to Help Text when running these utilities.

. New Device Support - OS Release 6.10.00 includes support for the 2529V Cartridge Tape Drive, the 2265V-3 620 MB Disk Drive, the SW04-3 Dual-Port Option for all VS systems except VS 25 and 45, and the 5575 High Speed Band Printer. Also, the Wang Professional Computer can emulate a 2246S or 2256C workstation.

. New Software Support - OS Release 6.10.00 includes support for Local WangNet, CHARTER, and VS Alliance. The VS Alliance Document Access Subroutines provide program access to Alliance documents.

HARDWARE PRE-REQUISITES
CP3: . Any VS 50/80 with a disk volume of 15 MB minimum.
. The 620 MB disk drive requires a 22V78 disk IOP.

CP4: . Any VS 90/100 with a disk volume of 15 MB minimum.
. The 620 MB disk drive requires a 22V88 disk IOP.

VS OPERATING
SYSTEM 6.10.00
(continued)

CP5 (VS 45):
. Any VS 45 with an external disk volume of at least
  15 MB. The creation of the system disk for the VS 45
  target machine must take place on a VS running VS OS
  6.10.00, which has a 9-track tape drive and a disk
  drive on which the target volume can be mounted.

Revision 3 Bus Processor Board
. For version 5.00.05 of the Cartridge Tape Microcode,
  a PROM upgrade is also necessary, and should be
  installed with the microcode software.

SOFTWARE PRE-REQUISITES
CP3: None.
CP4: VS 100 CPU microcode version 4.57.07 or later.
CP5: None.

DMS/TX users should use version 3.06.04 of COBOL and
version 4.10.00 of RPGII.

ALERTS
1. For the following software packages, the minimum levels
   which will run with VS Operating System 6.10.00 are as
   listed. Each of these packages must be ordered
   separately through normal order processing channels.
   VS Word Processing   1.06.01
   Remote WangNet   1.04.01
   Local WangNet   2.00.01

2. The following remote printers will not function under VS
   Operating System 6.10.00: 2231V-2, 2233R, 2235R, 2263V-1,
   2263V-2, 2263V-3, 2281WR, and 2281WCR.

3. When upgrading to 6.10.00, currently installed systems
   should make a copy of their existing FORMDFFN, USERLIST,
   and Configuration (@CONFIG@) files and reload them after
   the new system is built. This will retain all the proper
   print form definitions, userlist definitions, and the
   system configuration.

4. For CP5 models, the VS system that is used to initialize
   or relabel a disk pack which will be used to IPL a VS 45
   must be running a Release 6 VS Operating System in order
   to correctly DISKINIT/RELABEL the disk. Version 5.04.23
   of DISKINIT must be used. Also, when using the COLDBILD
   program to build CP5 COLDSTART diskettes under Operating
   System 6.10.00, the volume used as input to the diskettes
   cannot be the system volume.

(continued)

VS OPERATING
SYSTEM 6.10.00
(continued)

ORDERING INFORMATION
The VS Operating System 6.10.00 tape, part number 195-2456-7,
has been distributed to Wang Customer Engineering offices for
installation at customer sites. Operating System 6.10.00
will be installed on all new VS systems prior to shipment
from Distribution in Tewksbury.

INSTALLATION INSTRUCTIONS
VS operating system installations are arranged through local
Customer Engineering offices, who in turn may escalate any
operating system questions, through district and area levels,
to the Area Technical Operations Managers.

Prior to installing OS 6.10.00 on VS 50/80 systems, any
previously queued print files, procedures or transmissions
must be requeued. System defaults for dual-mode workstations
(additional operator consoles), background job classes and
printer class assignments must be reassigned.

OS 6.10.00 Module Version Numbers
NOTE: The following information indicates version numbers of
modules included with VS Operating System 6.10.00. For
minimal CP3 or CP4 Operating Systems, the files indicated
with the symbol '*' should be used. A minimal CP5 Operating
System must contain the files indicated with the symbol '+'
as well as the files marked with '*'.

Module	Version		Blocks Allocated	Description
Operating System Nucleus & Related Files in Library @SYSTEM@				
@GENMSG@	6.10.00	*	2	Displays Sys. Gen. Message
@IPL25@@	R2334	+	5	VS25/45 System Load File
@MCBOOT@	R2334	+	2	VS25/45 Boot File
@OPER@	6.10.00	*	49	Operator Console
@PROC@	2.07.06	*	17	Procedure Interpreter
@PRTTSK@	6.10.00	*	8	Printer Task
@SHARER@	6.10.00	*	7	Sharer Task
@SYS003@	6.10.00	*	208	VS CP3 OS Nucleus for VS 50/80
@SYS004@	6.10.00	*	636	VS CP4 OS Nucleus for VS 90/100
@SYS005@	6.10.00	*	599	VS CP5 OS Nucleus for VS 25/45
@SYSCPR@	6.10.00	*	29	Command Processor
@SYSGEN@	6.10.00	*	6	Dynamic System Generation Module
@SYSSVC@	6.10.00	*	102	OS Supervisor Calls
@SYSTSK@	6.10.00	*	33	System Task
@TSKMGR@	6.10.00	*	9	Creates Tasks Dynamically
BUILDALT	6.10.00	*	3	Builds DMS Alternate Indexes
BP	2.14.00	+	64	Bus Processor Microcode
CM	5.01.03	+	10	Control Mode WS Microcode
CP	5.09.02	+	18	CPU Microcode File
DEVLIST	1.00.19	*	139	Device List

(continued)

VS OPERATING
SYSTEM 6.10.00
(continued)

Module	Version	Blocks Allocated	Description

Packaged Utilities & Related Files in Library @SYSTEM@:

Module	Version		Blocks Allocated	Description
ASSEMBLE	1.09.02		53	VS Assembler
BACKUP	5.00.15	*	179	Backup Util.(WTEFORM file req'd)
VOLCOPY	2.02.04	*	12	Fast disk Backup program
COPY	3.00.01		8	Copy disk files, libes or vols
COPY2200	5.02.00		56	Wang VS Intersystem copy program
WTCDEAT	5.02.00		70	COPY2200 - External file
CONDENSE	2.00.01		25	Produces one-record-type file
WG5CREAT	2.00.01		11	CONDENSE - External file
CONTROL	4.02.01		57	Defines data file attributes
DATENTRY	4.02.04		36	Enables data file creation
DISKINIT	5.04.23	*	79	Initializes disk volumes
DISKIN45	2.05.00		8	OS 4 to OS 5 disk formatter
DISPLAY	3.06.02		36	Displays files on screen
DUMPER	5.02.04		1	CP3 main memory to floppy dump
EDITOR	6.09.15		12	VS integrated source text editor
WE1EDIT	6.09.15		65	EDITOR - linker output module
EZFORMAT	1.12.02		70	Reproduces user-created screens
FLOPYDUP	1.04.02		4	Duplicates diskettes
FORMCNTL	5.02.17		17	Printer forms definition utility
GENEDIT	6.00.15	*	82	System configuration utility
IBMCOPY	1.12.01		23	VS to/from IBM diskette format
INFO	1.12.10		76	Displays on-line documentation
INQUIRY	2.00.06		37	Interrogates data files
IOELOG	2.00.04		160	IO Error Log utility
LINKER	1.10.05		9	Links VS object modules
LISTVTOC	4.08.02		8	Vol. Table of Contents analysis
NEWTOPIC	1.00.00		2	Installs documentation for INFO
PATCH	1.07.02		3	Used to patch programs and files
REPORT	4.00.05		12	Create, modify, & print reports
WG3CANDM	4.00.05		99	REPORT - external file
WG3PRINT	4.00.05		45	REPORT - external file
SECURITY	5.04.11	*	27	Defines User IDs
SORT	5.07.02		13	VS sort/merge file utility
TAPECOPY	2.06.02		16	Tape to/from disk file copy
TAPEINIT	2.07.02		3	Wang VS Tape Initialization
TRANSL	2.00.00		12	File character-set translation
VERIFY	5.03.04		17	VS indexed file verification

INFO Documents and Helptext in LIBRARY @DOCLIB@:

Module	Version	Blocks Allocated	Description
@TOPICS@	(None)	1	INFO Topic Directory File
VOSN610	(None)	51	VS OS 6.10 Software Rel. Notice
VOSR610	(None)	159	VS OS 6.10 Software Bulletin
INFOHELP	2.20.00	14	On-line help text for INFO pgm.
BUPHELP	1.00.00	21	On-line help text for BACKUP
IOEHELP	1.00.00	33	On-line help text for IOELOG

PL/1 Systems Program Error Message File in Library @ERRMSG@:

Module	Version		Blocks Allocated	Description
WLREMSG	(None)	*	85	Runtime Error Messages

(continued)

VS OPERATING
SYSTEM 6.10.00
(continued)

Loadable Printer Microcode in LIBRARY = @SYSTEM@

@MC2263S	4.03.07	5	M'code for serial 5570 & 5571
@MC2273S	4.03.07	5	M'code for serial 5573 & 5574
@MC2281S	4.04.03	7	For serial 6581W/WC & 2281V-S
@MC2221S	4.03.06	5	M'code for serial 5531-2 & 5521
@MC5577	5.01.02	29	M'code for serial VHD 5577
@MCDW20	5.00.02	8	Low Cost Daisy Printer
@5535S	5.01.03	6	Lost Cost Matrix Printer
@MC5575	5.01.02	10	High Speed Band Printer

Loadable Tape Microcode in Library @SYSTEM@

@MC2529V	5.00.05	23	Cartridge Tape Microcode

Loadable Workstation Microcode in Library @SYSTEM@

@MC2246S	5.00.03	8	M'code for serial 2246S
@MC2246C	5.01.03	10	M'code for serial 2246C
@MC2266S	5.01.03	21	M'code for 32K Arch. WS
@MC2266C	5.01.03	21	M'code for 48K Arch. WS
@2246S1	5.01.03	8	029 with standard keypad
@2246S2	5.01.03	8	2246S with numeric reverse
@2246S3	5.01.03	8	029 with reverse keypad
@MC2246R	4.02.10	16	Microcode for remote workstation
@MCREMWS	3.05.09	16	DLP m'code - remote WS protocol

* indicates files required by CP3, CP4 and CP5.
+ indicates additional files required by CP5.

PROBLEMS CORRECTED
In addition to those listed in Software Bulletin Release
6.0, the following problems have been corrected since
OS Release 5.3.70:

1. In Operating System Release 5.03.70, a task crash and
   system hang would occur if a user attempted to dismount
   a disk that had SPOOL, WORK, and PAGING status set to
   'YES', but which had no such files.

2. To correctly position the heads, a revision was made to
   the @MC2529V microcode such that 6 inches of tape is
   erased before a write operation commences at the
   beginning of tracks 1, 2, and 3.

3. Version 4.02.01 of the CONTROL utility fixes a problem
   in which the input specification generated contained
   extraneous characters; this occurred during the
   generation of RPGII source code, if no table validation
   was used in the control file.

4. A problem was corrected concerning generated source
   code containing extraneous calls to the VERIFY program,
   with no validation specified for the data file.

(continued)

VS OPERATING
SYSTEM 6.10.00
(continued)

KNOWN ANOMALIES
Listed below are known 6.10.00 problems which can be consis-
tently duplicated. Circumventions are specified if known.

Operating System
1. When a 2281WCR Remote Printer (attached to a remote
   workstation) is acquired after activating the
   workstation, the message "WAITING FOR A WP PRINT FILE"
   is displayed. Remote printers do not support printing
   of documents created in WP mode; the printer will
   continue to wait for the WP document, thus rendering it
   useless for printing of DP documents. Circumvention:
   None; the 2281WCR cannot function as a remote printer
   under OS Release 6.10.00.

2. A 5577 Printer will indicate a device malfunction if
   "DESELECT", "TOP OF FORM", and "RESELECT" are performed
   between print files. Circumvention: If this occurs,
   try holding the waiting file in the print queue while
   powering the printer off and on to clear the condition.

3. Task crash occurs when eliminating messages from
   Operator's Console. Circumvention: Do not position
   cursor next to the flashing 'additional messages
   pending' line and hit ENTER. Instead, clear the
   displayed messages.

4. If a remote workstation is deactivated before its
   associated printer, the controlling operator task
   crashes. Circumvention: Deactivate the printer first.

5. An I/O completion loss occurs when attempting to cancel
   a program (in DP mode) using operator's console PF Key
   6 and then PF Key 12. The task appears to hang in
   CANCEL for approximately 3 minutes before the I/O
   Completion Lost message appears. Circumvention: Do not
   cancel programs from the operator's console, or, if the
   task is a foreground one, microcode can be reloaded to
   the workstation experiencing the problem by powering
   the workstation off, then on again.

6. Pre-allocated dump slots for Control Mode Dumps will
   not function correctly on either the fixed or removable
   volumes of a 2280V Phoenix disk drive. Circumvention:
   Do not use dump slots for F/R disk drives (2280V). Use
   the existing control mode dump procedure by specifying
   a Physical Device Address (PDA), which will destroy any
   existing data at that address.

VS OPERATING
SYSTEM 6.10.00
(continued)

For CP5 Models Only

7. On a VS 45, when attempting to create a configuration in GENEDIT with more than 16 workstations, the user must first specify a configuration file with 16 work- stations from the general menu screen, and then add to it from the serial device adapter screen.

8. When COLDSTARTing, the fixed portion of the disk drive is not initialized. Circumvention: Initialize the removable portion of the disk drive, and load a minimal system to it. IPL the system, and then run DISKINIT to initialize the fixed portion. Then backup everything from the removable portion to the fixed portion.

9. When COLDSTARTing, using PF Key 1 to copy additional software packages doesn't work properly. The program will appear to be functioning, but nothing is being copied. Circumvention: After the system is up, use the COPY or BACKUP program to continue loading software packages to the system disk.

System Utilities

10. In the BACKUP utility, if wild card selection is used for libraries, the message "VOLUME XX IS BEING MODIFIED ... PRESS ENTER TO CONTINUE ..." is displayed. This causes the disk to change ownership and to turn off all paging, work, and spool flags. Circumvention: Do not use wild card selection for library backup.

11. The VOLCOPY Option of the BACKUP utility will not copy from an 80 MB dual-ported disk to an 80 MB non-dual- ported disk. A message is given indicating that the disks are not of the same type.

12. When backing up to tape, BACKUP changes the density of the tape from 800 bpi to 1600 bpi, even if the tape has just been initialized at 800 bpi. Circumvention: None; backup to 800 bpi tapes is not possible with OS 6.10.00.

13. When BACKUP is proceduralized, ENTER CONFLICT no longer automatically skips files that are open on the input volume. Instead, BACKUP generates a message screen and waits for operator input when a conflict is encountered. Circumvention: On the INPUT DEFINITION screen, either specify ERRDISP=NO (to prevent screen display of all error messages) or MOREFILES=YES (to allow up to 12 specific files or libraries to be excluded from backup).

14. If a problem is encountered while running BACKUP, the operator is given the option of hitting PF Key 16 to terminate, but this does not cancel the BACKUP program. Circumvention: Hit the HELP key, then PF Key 16, and then the ENTER key.

VS OPERATING
SYSTEM 6.10.00
(continued)

REFERENCES
On-line versions of the Software Notice and the Release
Bulletin provided with the OS 6.10.00 may be accessed using
the VS INFO program after system installation.

Release 6.0 Software Bulletin (800-3111-01)
Describes VS Operating System changes since Release 5.03.50.

System Administrator's Reference (800-1144SA-01)
Describes all System Administrator functions including the
SYSGEN procedure, SECURITY, and COLDSTART utilities.

Utilities Reference Manual (800-1303UT-04)
Describes VS utilities used for program and file processing.

VS System Operation Guide (800-1102SO-07)
Describes system operation functions, including the new
BACKUP utility and Control Mode Dump procedures, as well as
operational characteristics for workstations.

2200 MVP-P1,
MVP-P2, & MVP-P3
ANNOUNCED
by 2200 Product
    Marketing

DESCRIPTION
Wang is pleased to announce a new family of 2200 MVP
computers available in three models -- MVP-P1, MVP-P2
and MVP-P3. Combined with aggressive pricing and increased
flexibility in hardware configurations, these offerings set
a tough, new standard in 2200 price/performance.

Configurations for the 2200 MVP-P1, MVP-P2 and MVP-P3 are:
    . MVP Processor with 8 Available I/O Slots
    . 22C32 Triple Controller
    . A new 5 1/4" Disk Storage Device with 10 MB Fixed
      Storage and 320 KB Removable Floppy Drive

The three configurations differ in memory size:
    . MVP-P1 has 64 KB memory
    . MVP-P2 has 128 KB memory
    . MVP-P3 has 256 KB memory

The pricing of the 2200 MVP-P systems, even after adding a
workstation and printer, breaks the psychological barrier
of $12,000, while still delivering a system that offers
maximum expansion potential. The P1, P2 and P3 configura-
tions fill the need for larger storage systems at entry
level pricing. The new offerings provide a highly expand-
able entry level system at the lowest entry level price
possible to compete in the small business systems market.

MARKETING STRATEGY
This announcement demonstrates a continuing corporate
commitment to the 2200 product line. The 2200 MVP-P1, P2
and P3 offer low-cost, proven DP solutions to a broad
prospect base where cost is a prime consideration. These
new 2200 MVP-P models provide an excellent choice for the
distributed processing needs of large accounts. Four
specific market needs are addressed by the MVP-P1, MVP-P2,
and MVP-P3:

    1. Affordability
       High performance at low cost is a reality with the
       introduction of the MVP-P1, P2 and P3 line of 2200
       small business computers. With an entry level
       price of $7,525 for a minimum configured MVP-P1,
       this new line of 2200 systems is most affordable.

    2. Reliability
       With over ten years of proven performance, the 2200
       series of small business computers has been one of
       the most reliable products in the marketplace.
       Potential customers will take note of the large
       installed base of over 60,000 systems worldwide.

2200 MVP-P1,
MVP-P2, & MVP-P3
ANNOUNCED
  (continued)

3. Expandability
   With 8 additional I/O slots available, the full
   complement of existing hardware options can be
utilized by the MVP-P1, P2 and P3. A wide variety of
communications and peripheral combinations are
therefore possible. The user can start with the lower
priced MVP-P1 and upgrade memory until reaching the
MVP-P3 level. The user can start with a single
workstation and expand up to 13 users processing
simultaneously. Also, if the user should require a
system with more than 256 KB of memory, an MVP upgrade
is available via the addition of a 'C' Option (Refer
to MVPC upgrade prices).

4. Software Availability
   Potential customers will take great comfort in the
   knowledge that a comprehensive array of off-the-
   shelf software exists for this product line both
   from Wang and from third-party developers. Do not
   overlook the power of this selling point.

   Wang has also announced the availability of
   P.R.I.S.M., a data-dictionary-driven software
   product which is targeted to the same market as the
   new series of MVP systems. With P.R.I.S.M., a user
   can perform many ad hoc inquiry and reporting
   functions virtually without programming. The data
   dictionary is also accessible via a user program.
   This makes it possible to develop complex
   applications using P.R.I.S.M. as a foundation.

ORDERING INFORMATION
Orders may be placed immediately, with first customer ship
anticipated during the first quarter of fiscal year '84.

Model	Description	Purchase Price	Monthly Maintenance
MVP-P1	64 KB MVP	$ 7,525	$161
MVP-P2	128 KB MVP	8,725	176
MVP-P3	256 KB MVP	11,125	206

2275-10 & -20
DISK UNITS
ANNOUNCED
by 2200 Product
    Marketing

DESCRIPTION
Wang has announced a new 2200 disk peripheral unit which
is available in two models, the 2275-10 and 2275-20,
configured as follows:

    2275-10   .One 10 MB 5 1/4" Winchester drive
               .One 320 KB Floppy drive

    2275-20   .Two 10 MB 5 1/4" Winchester drives

The 2275-10 disk peripheral is equipped with a single 10 MB
5 1/4" Winchester drive and a single 5 1/4" 320 KB Floppy
drive. The 2275-20 unit comes equipped with dual 10 MB
Winchester drives. These disk peripheral units must be
used with either a 22C03, 22C11, or a 22C32 Controller.

Diskette formats supported by the 2275 disk peripheral unit
are:

                256 bytes/sector (Standard 2200 format)
                   Sector size: 256 bytes
                   Sectors/track: 16
                   Tracks/side: 40
                   Sides: 2
                   Total Capacity: 320 KB

                512 bytes/sector (Standard Wang PC format)
                   Sector size: 512 bytes
                   Sectors/track: 9
                   Tracks/side: 40
                   Sides: 2
                   Total Capacity: 360 KB

The 512 bytes/sector format is the standard Wang PC format
and is supported by the 2200 for interchange purposes.
Sector data is therefore transferrable, but conversion may
be required for file handling. The 512 byte sectoring is
transparent to the 2200 operating system. The Disk
Processing Unit (DPU) maps two 2200 256-byte logical
sectors into one 512-byte physical sector. BASIC-2
accesses diskettes with this format as if the platter were
formatted with 256 byte sectors. All BASIC-2 disk
operations can be performed.

Because sector size and sectors per track are compatible,
the 2275 represents a media bridge for users who wish to
migrate software and data files to the Wang PC, although a
conversion procedure may be necessary. The pricing of the
5 1/4" storage device is competitive with that of other
offerings in the personal computer marketplace.

2275-10 & -20
DISK UNITS
ANNOUNCED
  (continued)

The 2275's compact design will be particularly attractive to the space conscious buyer. Measuring approximately 14.9" x 6.5" x 16", the unit will utilize an enclosure similar in design to the Wang PC electronics unit and house the disk drives, one printed circuit logic board, one regulator board, a 60-watt linear power supply and one 50 cfm (cubic feet per minute) fan.

MARKETING STRATEGY
As well as being a component of the MVP-P1, -P2 and -P3 packages outlined above, the 2275-10 and 2275-20 provide low cost add-on storage for existing users. Significant add-on business can be generated by introducing your customers to the 2275-10 and 2275-20 disk peripherals. Both of these units may be attached to any existing 2200 VP, LVP, LVPC, MVP or MVPC system using a 22C03, 22C11, or a 22C32 Controller.

With the addition of a new peripheral device incorporating the latest in 5 1/4" micro-Winchester technology, the price/performance ratio of Wang's low to middle range 2200 systems is significantly improved. The addition of the 5 1/4" disk storage technology introduces a new dimension to the expandability of the 2200 product line. Priced at $3,000 for the 2275-10 and $4,000 for the 2275-20, this device represents a low cost means for add-on disk storage utilizing the latest in disk storage technology.

All current Wang developed software, including the Oper ating System and P.R.I.S.M., will be available on 5 1/4" diskettes for use by the 2275 disk peripheral.

ORDERING INFORMATION
Orders may be placed immediately, with first customer ship anticipated during the first quarter of fiscal year '84.

Model	Description	Purchase Price	Monthly Maintenance
2275-10	10 MB/320 KB	$ 3,000	$ 56
2275-20	10 MB/10 MB	4,000	84

2280 DISK DRIVE
REPRICING
by 2200 Product
    Marketing

Wang Laboratories is pleased to announce substantial reduc-
tions in 2280 disk series pricing for the 2200 product line
of small business computer systems. Additionally, the 2280
disk series has been streamlined to provide maximum storage
capacity at a minimum price. This announcement will enable
Wang to compete aggressively in the initial sale of systems
as well as recapture and compete in the add-on disk market-
place. Combined with the recent 2200 MVP-P announcement,
this repricing allows the 2200 product line to continue
offering utmost flexibility and growth potential with an
excellent price/performance ratio.

HIGHLIGHTS
. Disk and maintenance prices have been reduced.
. 2280-1, -2, and -3 disk units have been discontinued.
. New 2280 offerings: 2280-3A and 2280N-3A.

PRICING INFORMATION

Model	Description	Purchase Price	Monthly Maintenance
2280-3A	13.4 Removable & 67 MB Fixed Disk Drive (80.4 MB total) with 22C14 Disk Processing Unit	$16,500	$216
2280N-3A	13.4 Removable & 67 MB Fixed (80.4 MB total) only	13,000	186

2200 TERMINAL
OFFERINGS
by 2200 Product
    Marketing

CURRENT OFFERINGS
Wang has streamlined 2200 terminal offerings in a manner
which greatly simplifies the ordering procedure. Instead
of six different types of 2200 terminals there are now only
three, as shown below:

Model	Description
2336DE	Interactive DP Ergonomic Workstation (Replaces 2236DE, 2876DE, and 2886DE)
2336DW	Integrated DP/WP Ergonomic Workstation (Replaces 2236DW, 2886DW)
2326DW	Integrated DP/WP Expanded Keyboard Workstation (Replaces 2876DW)

The new workstations are all ergonomically designed, with
detachable keyboards and non-glare screens. The 2326DW
includes an expanded 44-key keyboard for international
considerations. The 2336DE and 2336DW include the same
basic keyboards as their predecessors with minor functional
differences pertaining to the Lock, Halt, and Reset keys.
On all new models, the Lock, Halt, and Reset keys are
activated by pressing the shift key along with the
appropriate function key. These features as well as Caps
Lock, which is activated by pressing the Lock key
(producing uppercase alphabetic characters with all other
characters remaining lowercase), are discussed in the
2336DW Interactive Terminal User Manual (700-7636).

OPTION-W
Up to three terminals are now supported on both new and
existing 2200 SVPs with Option-W. Upgrades can be
accomplished with no disruption to present operation. The
Option-W terminal processor extends the configuration
flexibility by replacing the current controller, thus
allowing support of a second and third terminal. Option-W,
order number SVP OPTION-W, does not include the added
terminals.

2236MXE TERMINAL PROCESSOR
The 2236MXE Terminal Processor is an intelligent
multi-terminal controller for the 2200 LVP and MVP CPUs.
This device controls I/O operations between the CPU and the
terminals, and buffers data entered from or transferred to
the terminal. The 2236MXE Terminal Processor has extensive
capabilities which provide for the enhanced performance of
complex operations.

(continued)

2200 TERMINAL
OFFERINGS
(continued)

Among the features of the 2236MXE Terminal Processor are:

. Time-of-day Clock
By using the BASIC language TIME and DATE functions,
applications can now read a time-of-day clock to
determine real time usage.

. Terminal Disconnect
With the BASIC language and multi-user operating system,
the terminal disconnect capability can be used to
promote the secure use of systems. With this feature
the user can, for example, force a terminal to
disconnect automatically after a specified period of
time, or initiate user logon and logoff procedures.

. Terminal to MXE Interface
Each terminal can be attached either locally or remotely
to the 2236MXE Terminal Processor. Communication
between the terminal and the 2236MXE is asynchronous and
full-duplex, with selectable baud rates ranging from 50
to 19200 bits per second. The four ports on the 2236MXE
are 25-pin, RS-232-C compatible.

. Diagnostics
The 2236MXE provides a full set of power-on diagnostic
error messages that are displayed on the CRT screen. In
addition to the automatic testing, the 2236MXE can
respond to specific software commands that test the
board components, the RAM, and local and remote WA3451
modems.

. Asynchronous Communications
When configured with the proper software package, the
2236MXE can act as an asynchronous communications
controller. The character formats supported by the
2236MXE include odd, even, or no parity; 5, 6, 7, or 8
data bits; and 1, 1.5, or 2 stop bits. The user can, at
any time, request current status regarding transmission
errors, break signal reception, and modem signals.

The 2236MXE Terminal Processor is order number 2236MXE.
(See pages 43-46 of this issue for a description of 2236MXE
software commands.)

2200 DATA
COMMUNICATIONS
CONTROLLERS
by Emulators and
    Gateways Prod-
    uct Marketing

The data communications capabilities of Wang's 2200 product line are made possible through a wide selection of communication controllers and associated software products. The most recent communication products available on the 2200 utilize the 2228D Controller for LVP/MVP Systems and the Option 28D Controller for SVP Systems. Recently, this family of data communication products was revised. Highlights of these revisions are as follows:

- Discontinuation of 32K Memory Controllers
- Price Reduction on some 64K Memory Controllers
- Discontinuation of RS-449/RS-366 Controllers
- New 64K and 128K Controllers
- Controller Upgrades

Old and new versions of the 2200 Controller products are compared in Table 1 below:

TABLE 1. 2228D/OP28D CONTROLLER COMPARISON

Former Model:	Description	Replaced By:	Description
2228D/OP28D-2	32K,RS-232/366	2228D/OP28D-4E	64K,RS-232/366
2228D/OP28D-2A	32K,RS-449/366	2228D/OP28D-4E	64K,RS-232/366
2228D/OP28D-2X	32K,X.21	2228D/OP28D-4X	64K,X.21
2228D/OP28D-4A	64K,RS-449/366	2228D/OP28D-4E	64K,RS-232/366
2228D/OP28D-4	64K,RS-232/366	.... Same	....
2228D/OP28D-4X	64K,X.21	.... Same	....
None (new)	None (new)	2228D/OP28D-8E	128K,RS-232/366
None (new)	None (new)	2228D/OP28D-8X	128K,X.21

Note: 2228D controllers are used for 2200 MVP and LVP systems.
      OP28D controllers apply to 2200 SVP systems.

Pricing information for each of the above controllers can be found in the current Pricing Manual. Note that the software product offerings designed to execute on each of these controllers have been revised, as described on pages 37 and 38 of this issue. Controller requirements of each of these packages are shown in Table 2.

32K Controllers (Suffix 2/2A/2X)
All 32K versions of the 2228D/OP28D Controllers have been discontinued. All previously announced software products that required a 32K Controller now requires a 64K Controller, which is necessary to insure the performance and efficiency of the 2200 Series data communication software products. Any customer orders for the 32K Controller will automatically have the appropriate 64K Controller (as shown in Table 1) substituted at no additional charge.

(continued)

2200 DATA
COMMUNICATIONS
CONTROLLERS
   (continued)

2200 software products affected by the increase in
controller memory requirements from 32K to 64K are the
following:
    IBM 2780/3780 Protocols, model number 195-2193
    ASYNC for 2228D/OP28D, model number 195-2201
    MAILWAY for 2200, model number MP2200-3

64K Controllers (Suffix 4/4A/4E/4X)
The 2228D-4 and OP28D-4 Controllers are combined
RS-232/RS-449 switch selection connection controllers and
were designed to support the IBM 3271 BSC Emulation
(195-2159). All orders for the IBM 3271 BSC Emulation
still require this version of the controller. Therefore,
the 2228D-4 and OP28D-4 Controllers have been put back into
the Pricing Manual. It should be noted that this
controller does not support auto-dial and that only the
RS-232 interface is implemented with the IBM 3271 BSC
Emulation.

2228D-4A and OP28D-4A, the two RS-449/RS-366 connection
controllers, are now only available upon special request
and are no longer included in the Pricing Manual. The
RS-449/RS-366 connection versions had a very low customer
demand, but if there is significant need for this type of
interface, a Special Product Quotation Request (700-7309)
should be submitted to the Communication Systems Group of
Product Marketing.

Two new 64K controllers, models 2228D-4E and OP28D-4E, have
been added. These are the new RS-232/RS-366 versions of
the controller. The RS-366 connection is designed to
support auto-dial capabilities for selective data
communication software products. Products which will
support the RS-366 connection (auto-dial) are listed in
Table 2.

The 2228D-4X/OP28D-4X 64K Controllers have been reduced in
price. These controllers are the X.21 connection versions
which have been designed to support a circuit-switching
type of operation. In the future Wang will be offering
international and domestic software products that will
support the X.21 interface.

128K Controllers (Suffix 8E/8X)
Four new 128K controllers, models 2228D-8E, OP28D-8E,
2228D-8X and OP28D-8X, have been added to the product
line. The 2228D-8E/OP28D-8E (RS-232/RS-366) versions of
these controllers will be required for the 2200 Series IBM
3274 SNA/SDLC software product (195-2199). As with the 64K
Controllers, the new 128K Controllers will also have X.21
versions (2228D-8X/OP28D-8X). The X.21 version will be
used by future revisions/releases of software products.

2200 DATA
COMMUNICATIONS
CONTROLLERS
(continued)

Controller Upgrades
A 64K to 128K upgrade (UJ-5049) has been added to the
product line. The UJ-5049 upgrade allows the
2228D-4E and OP28D-4E to be field upgraded to the 2228D-8E
and OP28D-8E respectively. In the future, this same
upgrade will be used to field upgrade the 2228D-4X and
OP28D-4X to the 2228D-8X and OP28D-8X. Pricing for UJ-5049
can be found in the current Pricing Manual.

Note that products requiring a 64K Controller (D-4E) will
also operate on the corresponding 128K Controller (D-8E).

The 32K to 64K upgrade, UJ-5024, is no longer needed and
has been deleted from the product line.

TABLE 2.   SOFTWARE 2228/OP28 CONTROLLER REQUIREMENTS

Software Product & Model	2228/OP28 Model Required	
3271 BSC Emulation (195-2159)	D-4	(64K RS232/449)
ICS Utilities (195-2192)		(none)
ICS 2780/3780 (195-2193) *	D-4E	(64K RS232/366)
Remote WangNet (195-2200) *	D-4E	(64K RS232/366)
ICS TTY (195-2201) *	D-4E	(64K RS232/366)
IBM 3274 SNA/SDLC (195-2199) *	D-8E	(128K RS232/366)
MAILWAY for 2200 (MP2200-3) **	D-4E	(64K RS232/366)

*   ICS Utilities (195-2192) required.

** Will require 2200 Wang WP (195-2174) and ICS
    2780/3780 in addition to the ICS Utilities.

2200
COMMUNICATIONS
SOFTWARE NOTICES
by Emulators and
    Gateways Prod-
    uct Marketing

In conjunction with the 2200 Data Communications Control-
ler revisions described on pages 34-36 of this issue,
numerous revisions have also been made in the 2200 Data
Communications software offerings. These revisions are
summarized below:

ABC Utilities Repackaged and Renamed
The Advanced Batch Communication (ABC) Utilities
(195-2192) have been renamed the Integrated Communi-
cation Services (ICS) Utilities. In addition, the
2200-2200 and WPS communication protocols have been
removed from this package and placed within the ICS
2780/3780 Emulation software package (195-2193).

Enhanced 2780/3780 Emulation Clarification
The Enhanced 2780/3780 Emulation product (195-2193) has
been renamed to the ICS 2780/3780 Emulation and now
includes the 2200-2200 and WPS communication protocols,
with auto-dial supported. As a result of these and other
changes, this product now requires a 64K 2228D-4E or
OP28D-4E Controller.

ASYNC Repackaged and Renamed
The ASYNC for 2228D software product (195-2201) has been
renamed to the ICS TTY Emulation. Also, because the 32K
version controller is no longer available, this product
now requires a 64K Controller.

MAILWAY Clarification
The 2200 MAILWAY Distribution Point software (MP2200-3)
has a prerequisite of the ICS Utilities (195-2192) and ICS
2780/3780 Emulation (195-2193) software products.

Teletex Support Discontinued
The 2200 Teletex Support product (195-2196) has been
discontinued. Teletex is primarily a telecommunication
tool for the word processing marketplace. Since the 2200
is primarily a small business or DDP system, Wang is
redirecting development resources for the Teletex product
to the OIS, Alliance, and VS/IIS product lines.

The requirement to transmit word processing documents from
a 2200 can be adequately handled with either the ICS
2780/3780 Emulation (195-2193), 2200 MAILWAY (MP2200-3) or
IBM Bisynchronous Batch (195-2057) software products.

(continued)

2200
COMMUNICATIONS
SOFTWARE NOTICES
  (continued)

X.21 Connection Module Repackaged

The X.21 Connection Module (195-2194) has been obsoleted as a separate product. In the future, X.21 connection software will be included with the appropriate communication protocols, thereby simplifying configurations. The X.21 controllers and software will be used to interface to a circuit-switching type of operation, which is not currently available in the U.S. However, because of future software packages for the international market place, X.21 products will be offered by Wang. These X.21 products will be the subject of a future announcement.

IBM 3274 BSC Emulation Discontinued

The IBM 3274 BSC Emulation product (195-2198) has been discontinued. Since Wang currently offers 3270 BSC emulation on the 2200 with the IBM 3271 BSC product (195-2159), an additional 3270 BSC offering would be a duplication of products.

IBM 3271 BSC Emulation (195-2159) currently requires the RS-232/RS-449 switch-selectable controllers (2228D-4 and OP28D-4). For customers wishing to upgrade from the 3271 BSC Emulation to the 3274 SNA Emulation (195-2199), refer to the section entitled "IBM 3274 SNA/SDLC Clarification".

IBM 3274 SNA/SDLC Clarification

The previously announced 2200 IBM 3274 SNA/SDLC Emulation (195-2199) now requires the new 128K (2228D-8E or OP28D-8E) Controller. A 3274 SNA Upgrade Policy will be forthcoming. This policy will be concerned with upgrading currently installed 3271 BSC Emulation (195-2159) with 2228D-4/OP28D-4 Controllers to the 3274 SNA (195-2199) with 2228D-8E/OP28D-8E Controllers.

**2200 ICS UTILITIES,
VERSION 2.0.5
by 2200 R&D**

DESCRIPTION

The Advanced Batch Communication (ABC) Utilities, package 195-2192, has been renamed the Integrated Communication Services (ICS) Utilities. The 2200 ICS Utilities provide the user with extensive data communications and/or off-line standalone processing capabilities. When the ICS Utilities are used in the standalone mode, functions such as print spooling, task scheduling, and remote communication definitions can be performed. When ICS is used in conjunction with a communication software package, the user can send or receive files according to date/time (using a 2236MXE), schedule additional program tasks according to selective events, and print files received after the communication session has been completed.

Note that the 2200-2200 and WPS protocols that were originally included with the ABC Utilities are not included with the ICS Utilities. These communication protocols are in the ICS 2780/3780 Emulation software package (195-2193). Also, the ICS Utilities package is a pre-requisite for several of the other data communication software products, as listed in Table 2 on page 36 of this issue.

HARDWARE PRE-REQUISITES
    2200 SVP/LVP/MVP

SOFTWARE PRE-REQUISITES
    Multi-User Operating System Release 2.4 or later

ALERTS
None

ORDERING INFORMATION
2200 ICS Utilities software is available through normal order processing channels as package number 195-2192-3. This package contains:
    . Three SSSD diskettes (Media # 701-2745 thru 701-2747)
    . One 2200 ICS Utilities Manual (700-7102)

INSTALLATION INSTRUCTIONS
Refer to the 2200 ICS Utilities Manual (700-7102).

PROBLEMS CORRECTED
Not applicable; initial release

KNOWN ANOMALIES
None

REFERENCES
2200 ICS Utilities Manual (700-7102)

ICS 2780/3780
EMULATION,
VERSION 2.0.4
by 2200 R&D

DESCRIPTION
The Enhanced 2780/3780 software package (195-2193) has
been renamed the ICS 2780/3780 Emulation, and the
2200-2200 and WPS communication protocol support has
been included. The ICS 2780/3780 Emulation package
(Batch Bisynch Communications) allows a 2200 system to
communicate with other Wang systems, IBM systems, or
IBM-compatible systems that utilize the 2780 or 3780
Binary Synchronous Communication (BSC) protocol.
Point-to-point or multipoint secondary half-duplex
communication is supported over leased lines. Manual or
auto-dial is supported over dial-up lines. A line speed
of up to 9,600 bits per second is supported utilizing
either the EBCDIC or ASCII character sets. More
information can be found in the new 2200 ICS 2780/3780
Emulation User Guide (700-7075).

HARDWARE PRE-REQUISITES
      2200 SVP/LVP/MVP
      64K 2228D-4E/OP28D-4E Controller

SOFTWARE PRE-REQUISITES
      Multi-User Operating System Release 2.4 or later
      Release 2.0.5 of the ICS Utilities package

ALERTS
   1. Auto-dial is supported by utilizing the RS-366
      connection of the required 64K 2228D-4E/OP28D-4E
      Controller.

   2. ICS Utilities (195-2192) is a pre-requisite for the
      ICS 2780/3780 Emulation package.

ORDERING INFORMATION
2200 ICS 2780/3780 Emulation is available through normal
order processing channels as package number 195-2193-3,
which contains:
      . Two SSSD diskettes (Media # 701-2743 and 701-2744)
      . One 2200 ICS 2780/3780 Emulation User's Guide,
        number 700-7075

INSTALLATION INSTRUCTIONS
Refer to the 2200 ICS Utilities Manual (700-7102).

PROBLEMS CORRECTED
Not applicable; initial release

KNOWN ANOMALIES
None

REFERENCES
2200 ICS 2780/3780 Emulation User's Guide (700-7075).

**2200 ICS TTY
EMULATION,
VERSION 2.0.4
by 2200 R&D**

DESCRIPTION
The ASYNC for 2228D software product, package number
195-2201, has been repackaged and renamed ICS TTY
Emulation. The ICS TTY Emulation asynchronous
communications product allows messages, data files, and
program files to be transmitted, interactively or in
limited batch mode, to other systems and terminals that
support the Teletype TTY protocol. More information can
be found in the 2200 ICS TTY Emulation User Guide,
number 700-7553.

ICS TTY Emulation requires ICS Utilities software
(195-2192) and a 2228D-4E or OP28D-4E Controller. The
ICS TTY Emulation is an integrated and flexible
alternative for customers who require one of the other
2228D-4E/OP28D-4E communication protocols but also have
a need for limited TTY functions. Therefore, the ICS
TTY Emulation product will allow one 2200 communications
controller to be used for several data communication
functions, thus providing a more cost-effective hardware
solution.

HARDWARE PRE-REQUISITES
        2200 SVP/LVP/MVP
        64K 2228D-4E/OP28D-4E Controller

SOFTWARE PRE-REQUISITES
        Multi-User Operating System Release 2.4 or later
        Release 2.0.5 of the ICS Utilities package

ALERTS
None

ORDERING INFORMATION
2200 ICS TTY Emulation is available through normal order
processing channels as package number 195-2201-3,
containing:
        . One SSSD diskette (Media # 701-2742)
        . One 2200 ICS TTY Emulation User's Guide (700-7553)

INSTALLATION INSTRUCTIONS
Refer to the 2200 ICS Utilities Manual (700-7102).

PROBLEMS CORRECTED
Not applicable; initial release

KNOWN ANOMALIES
None

REFERENCES
2200 ICS TTY Emulation User Guide (700-7553)

**2200 SINGLE-USER
OPERATING SYSTEM,
VERSION 2.6**
by 2200 R&D

DESCRIPTION
Release 2.6 of the 2200 BASIC-2 Single-User Operating
System corrects problems in OS Release 2.5 and in pre-
vious releases of the @MOVFIL and @RECOVER utilities.

HARDWARE PRE-REQUISITES
2200 VP or 2200 SVP

SOFTWARE PRE-REQUISITES
None

ALERTS
None

ORDERING INFORMATION
BASIC-2 Single-User Operating System Release 2.6 is
available through normal order processing channels
Available package numbers and their contents are:

System	Package #	Media
VP	195-0033-3	1 SSSD Diskette (701-2118P)
VP	195-0033-8	3 SSSD Mini-Diskettes (701-8068H, 701-8129C, 701-8069G)
SVP	195-2163-5	1 DSDD Diskette (731-0068A)

INSTALLATION INSTRUCTIONS
The normal procedure (i.e., '@INSTAL') should be used.

PROBLEMS CORRECTED
1. The operating system has been corrected so the
   letters
   "INIT" do not appear after the "READY" message when
   RESET is pressed on 2336DE or 2336DW workstations.

2. The @MOVFIL utility has been modified to display an
   operator prompt rather than destroying files when:
   (a)   The operator specifies the same address for
          both source and destination platters, OR
   (b)   The operator does not specify a destination
          file name different from the source file name.

3. The @RECOVER utility has been modified to correct
   the situation in which 'all active files' were not
   correctly recovered if sectors in the catalogue
   index (i.e., @INDEX) contained duplicate file names.

KNOWN ANOMALIES
None

REFERENCES
None

2236MXE SOFTWARE COMMAND USAGE
by the Technical Support Center

When a 2200 MVP, MVPC, LVP, or LVPC is configured with a Model 2236MXE Terminal Processor, a user can perform certain system procedures by evoking Model 2236MXE Command mode and entering special MXE software commands. A 2200 SVP with Option-W can also enter Command mode. Both the BASIC-2 Single-User Operating System and the BASIC-2 Multi-User Operating System can support Command mode.

MXE commands perform procedures such as:
- Listing all MXE Command codes and their functions
- Displaying the status of all ports on the terminal processor
- Setting the primary user (Port 1) on a 2200 system
- Setting the transmission rate of a port on the terminal processor by means of the software alone
- Setting the MXE password

Other MXE commands exist to lock and unlock the transmission rate of the current port, print a message on all terminals connected to the model 2236MXE controller board, test the memory in the RAM of the board, and restart the power on diagnostics. These commands are beyond the scope of this discussion and are documented in the Customer Engineering Product Maintenance Manual, 2236MXE Terminal Controller (Early Field Support) July 1982. Various releases of the MXE software may allow various subsets of or additions to the command list.

All commands begin with a one-character command code. Most commands then have a six-character password, which is the MXE password (similar in use to the 2200 system password). The default MXE password is MXEPSW. The password is followed by other command parameters in a specified order.

Entering and Exiting Command Mode
To enter Command mode at any time from any configured terminal, press the "LOAD" key three times. The prompt ENTER MXE COMMAND is displayed on the screen, followed by a percent character (%) on the subsequent line. When the percent character (%) appears, an MXE command can be entered. Pressing RETURN executes the command.

After processing an MXE command, the terminal again displays the percent character (%) and another MXE command can be entered. The user can exit MXE Command mode by pressing the RETURN key when the percent prompt appears. Exiting Command mode returns the terminal to the point from which Command mode was entered. Pressing RESET also causes an exit from Command mode, but resets the attached partition and clears the screen.

(continued)

<u>2236MXE SOFTWARE</u>   2236MXE command formats and descriptions are given below:
<u>COMMAND USAGE</u>
   (continued)   <u>Command Code H: Help</u>

                            Format: H

                        The Help command displays all MXE Command codes and
                        functions, such as the following:
                            A   Set VP user
                            B   Set Baud Rate
                            C   Set PSW
                            D   Download
                            E   Analog Loopback
                            F   Digital Loopback
                            G   Print
                            H   Help
                            I   Ram Test
                            J   Restart
                            L   Lock
                            ?   Status

                        <u>Command Code ?: Status</u>

                            Format: ?

                        The Status command displays a chart, such as the
                        following, indicating the status of all ports on the
                        terminal processor to which the terminal issuing the
                        command is connected.

                            <u>Sample Status Command Chart</u>

                            2236MXE RO (BOOTSTRAP)
                          * PORT 1 ON 19200 L / (19200) LOCAL WANG TERMINAL
                            PORT 2 OFF 19200   / (19200) LOCAL WANG TERMINAL
                            PORT 3 OFF 19200   / (19200) LOCAL WANG TERMINAL
                            PORT 4 OFF 19200   / (19200) LOCAL WANG TERMINAL

                        The first line of the chart shows: DEVICE R# (MODE).
                        The DEVICE field contains the model number of the terminal
                        processor. The R# field lists the revision number of the
                        terminal firmware. The MODE field indicates whether the
                        system has been configured with a multi-user operating
                        system, in which case the terminal displays (MVP). If the
                        system has not yet been configured or if the system has
                        been configured with a single-user operating system, the
                        terminal displays (BOOTSTRAP).

                                        (continued)

2236MXE SOFTWARE
COMMAND USAGE
(continued)

The next four lines of the chart display the following information for each port on the terminal processor, with an asterisk appearing before the entry for the primary port of the system.:

On/Off state: If the terminal connected to the port is both configured and powered on, the word ON appears. Otherwise, the word OFF appears.

Software selected transmission rate: This is the transmission rate selected by MXE Command Code B, Set Transmission Rate. If MXE Command Code B has not been evoked, the transmission rate defaults to the rate set by the hardware switches.

Locked or unlocked state: The letter L indicates that the MXE Command code L, Lock, has been used to lock the transmission rate of the terminal. If the terminal is not locked, this field is left blank.

Hardware selected transmission rate: This is the transmission rate set by the switches on the processor board.

Local/Remote state: This field indicates whether the terminal is a local terminal or is connected to the MXE through a modem.

Terminal type: If the terminal on the indicated port is a standard Wang 2200 terminal or Wang 2200 terminal emulation, the message WANG TERMINAL appears in this field.

Command Code A: Set Primary User

    Format: A password x (where x = port designator)

The Set Primary User command selects the primary port. The primary port supports the terminal that can perform master initialization. On a system with more than one terminal processor, this command can only be used from a terminal connected to the first terminal processor. The primary user must be set while in the bootstrap (VP mode). Once the multi-user operating system is loaded, the primary user cannot be changed.

The port designator is a number between 0 and 4. A port designator of 1, 2, 3, or 4 corresponds to the port number on the terminal processor. A port designator of 0 indicates the current terminal port. After the system processes this command, the CRT displays the message OK.

Command Code B: Set Transmission Rate

Format: B password x rate

where "x" is the port designator, and "rate" is the
transmission rate to be set for the port indicated by the
port designator

The Set Transmission Rate command sets the baud rate for a
specified port sharing the MXE terminal processor with the
terminal issuing the command. Transmission rate is set to
hardware setting at power on and master initialization.
This command can set the rate to 50, 75, 100, 110, 134.5,
150, 200, 300, 600, 1200, 2400, 4800, 9600, or 19200 bps.
The Set Transmission Rate command overrides any hardware
switch settings.

The port designator is a number between 0 and 4 indicating
the port on the 2236MXE which is to be the primary port.
A port designator of 1, 2, 3, or 4 corresponds to the port
number on the terminal processor. A port designator of 0
indicates the current terminal port.

After the user enters this command, the terminal displays
the 2236MXE status chart and asks for verification of the
information. Entering "no" or "n" and pressing RETURN
aborts execution. Entering "yes" or "y" and pressing
RETURN executes the command.

Command Code C: Set Password

Format: C current-password new-password

The Set Password command changes the current MXE password
to the specified new password. The default MXE password
is is MXEPSW.

INDEX

INDEX (continued)

ISO TECH NEWS REPLY FORM

We hope that you will help to shape the contents and organization of this publication. How can ISO Tech News be changed to be more useful to you? Please use the area below to give us your opinion of material covered in this issue and your suggestions for topics that you would like to see included in future issues of ISO Tech News.

Enclose any material that you would like to have published in ISO Tech News. Notices for other ISOs as well as technical "how to" articles, success stories, usage pointers. etc., all are welcome. This is _your_ publication -- make it work for you!

COMMENTS:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name: _____

Company: _____

Address: _____

             _____

             _____

_____ fold here, seal and mail _____

BUSINESS REPLY CARD
FIRST CLASS   PERMIT NO. 16   NO. CHELSMFORD, MA.

POSTAGE WILL BE PAID BY ADDRESSEE

Jo Anne Kelch, Editor
ISO TECH NEWS, Mail Stop 1408A
Wang Laboratories, Inc.
One Industrial Avenue
Lowell, MA 01851
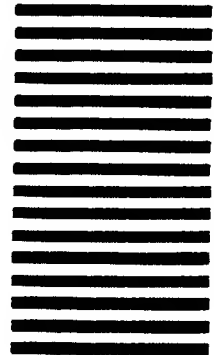
_____ fold here, seal and mail _____

Indirect Sales Organization

Wang Laboratories, Inc.
One Industrial Avenue
Lowell, Massachusetts 01851
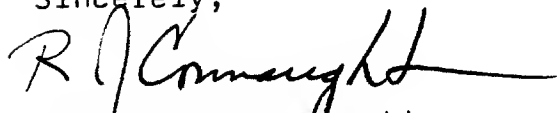Telephone: 617 459-5000
TWX: 710-343-6769
Telex: 94-7421

WANG

Dear Indirect Sales Organization:

      Wang is pleased to announce the fulfillment of a long overdue promise -- the publication of a monthly periodical dedicated to the ISO community. The monthly ISO Tech News magazine is designed to keep the Indirect Sales Organization informed on the rapid evolution in Wang hardware and software.

      Each month, the ISO Tech News publication will provide the reader with the latest technical information relevant to Wang equipment as well as ISO Marketing information. We are confident that this publication will become an important information transfer mechanism that you will find useful in the months ahead.

Sincerely,

Richard J. Connaughton
Group Director
Indirect Sales Organization